-continued

<220> FEATURE:
<223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic primer

<400> SEQUENCE: 65

accctccaat tgtcaggtaa tttccttcac ggtc 34

1.-31. (canceled)

32. An isolated nucleic acid sequence that encodes an antibody or a functional antibody fragment thereof, wherein the antibody or functional fragment thereof is specific for human GM-CSF, and wherein the antibody or functional fragment thereof comprises:

(a) a VII region comprising a sequence at least 80% identical to the sequence of SEQ ID NO:20; or

(b) a VL region comprising a sequence at least 80% identical to the sequence of SEQ ID NO:40.

33. The isolated nucleic acid sequence according to claim 32, wherein the antibody or the functional antibody fragment comprises:

(a) a VH region comprising a sequence at least 90% identical to the sequence of SEQ ID NO:20; or

(b) a VL region comprising a sequence at least 90% identical to the sequence of SEQ ID NO:40.

34. The isolated nucleic acid sequence according to claim 32, wherein the antibody or the functional antibody fragment comprises:

(a) a VH region comprising a sequence at least 95% identical to the sequence of SEQ ID NO:20; or

(b) a VL region comprising a sequence at least 95% identical to the sequence of SEQ ID NO:40.

35. The isolated nucleic acid sequence according to claim 32, wherein the antibody or the functional antibody fragment comprises a synthetic polypeptide, a humanised sequence, or a chimeric sequence.

36. A vector comprising the isolated nucleic acid sequence according to claim 32.

37. An isolated cell comprising the vector according to claim 36.

38. The cell according to claim 37, wherein the cell is bacterial.

39. The cell according to claim 37, wherein the cell is eukaryotic.

40. A vector comprising a nucleic acid sequence that encodes an antibody or a functional antibody fragment, wherein said isolated human or humanized antibody or functional fragment thereof is able (i) to block interaction of 0.5 μg/ml human GM-CSF with the alpha chain of human GM-CSF receptor expressed on about 2×105 CHO-K1 cells by at least 50% under the following conditions: (a) the concentration of said human GMCSF receptor alpha chain expressed on said CHO-K1 cells is similar to the concentration of human GM-CSF receptor alpha chain expressed on about 2×105 CHO-GMRa #11 cells, and (b) the concentration of said isolated human or humanized antibody or functional fragment thereof is about 5 μg/ml; and (ii) to neutralize 0.25 ng/ml human GM-CSF in a TF-1 proliferation assay with an at least five-fold lower IC50 value than reference antibodies MAB215 or BVD2-21C11.

41. A vector comprising the isolated nucleic acid sequence according to claim 40.

42. An isolated cell comprising the vector according to claim 40.

43. The cell according to claim 42, wherein the cell is bacterial.

44. The cell according to claim 42, wherein the cell is eukaryotic.

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